

In re Application of: Oren GLOBERMAN
Serial No.: 10/517,938
Filed: August 9, 2005
Office Action Mailing Date: April 21, 2010

Examiner: Kevin Thao TRUONG
Group Art Unit: 3734
Attorney Docket: 38309
Confirmation No.: 3765

In the Claims:

1. (Currently Amended) A ~~tool carrying balloon~~ catheter, comprising:
an elongate body adapted for insertion into a blood vessel;
~~a tool section balloon attached to a distal side end of said body; said balloon including a longitudinal fold on its outer surface ; and~~
~~a guide-channel adapted to carry at least a guide-wire located within said fold; outside the balloon body; and~~
~~wherein said catheter includes an entry port into said guide-channel for said guide wire, and~~
~~wherein said tool balloon includes a distal an exit for said guide wire from said guide-channel in said fold, defined in a side of said tool.~~
2. (Withdrawn) A catheter according to claim 1, wherein said entry port is proximal to said tool.
3. (Currently Amended) A catheter according to claim 1, wherein said entry port is at a distal to-end of said tool balloon.
4. (Withdrawn) A catheter according to claim 1, wherein said guide-channel is adapted to carry a second catheter.
5. (Withdrawn) A catheter according to claim 4, wherein said second catheter is a balloon catheter.
6. (Withdrawn) A catheter according to claim 1, wherein said guide-channel is limited to a distal section of said elongate body.

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7. (Withdrawn) A catheter according to claim 1, comprising a second guide-channel adapted to carry a second guide wire.

8. (Withdrawn) A catheter according to claim 7, wherein said two guide-channels share a common lumen section.

9. (Withdrawn) A catheter according to claim 8, wherein said second guide-channel defines an aperture in its side for said distal exit.

10.-12. (Canceled)

13. (Currently Amended) A catheter according to claim ~~12~~¹, wherein said balloon includes a stiffening which defines said guide-channel.

14. (Withdrawn) A catheter according to claim 12, wherein said balloon includes adhesive which adheres two parts of said balloon to define said guide-channel.

15. (Withdrawn) A catheter according to claim 10, wherein said balloon is split to define said channel between two sections of said balloon.

16. (Withdrawn) A catheter according to claim 15, wherein said balloon is axially split.

17. (Withdrawn) A catheter according to claim 15, wherein said balloon is trans-axially split.

18. (Currently Amended) A catheter according to claim 1, ~~wherein said tool comprises further comprising~~ a stent.

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19. (Currently Amended) A catheter according to claim 18, wherein said stent is mounted on a-said balloon.

20. (Withdrawn) A catheter according to claim 19, wherein said guide-channel is defined between said stent and said balloon.

21. (Canceled)

22. (Currently Amended) A catheter according to claim-24_1, wherein said guide-channel is wide enough to accommodate a second balloon catheter.

23. (Withdrawn) A catheter according to claim 18, wherein said guide-channel is defined by a crimping of said stent.

24. (Withdrawn) A catheter according to claim 18, wherein said stent includes a dedicated aperture along its length for said exit port.

25. (Withdrawn) A catheter according to claim 18, wherein said stent defines two guide-channels.

26. (Withdrawn) A guiding stent comprising a stent body crimped in a radially non-uniform manner to define at least one guide-channel adapted to carry at least a guide-wire.

27. (Withdrawn) A stent according to claim 26, wherein said channel is designed to accommodate only a single guide-wire.

28. (Withdrawn) A stent according to claim 26, wherein said channel is designed to accommodate a plurality of guide-wires.

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29. (Withdrawn) A stent according to claim 26, wherein said channel does not extend along an entire length of said stent.
30. (Withdrawn) A stent according to claim 26, wherein said channel is adapted to carry a balloon catheter.
31. (Withdrawn) A stent comprising:
an elongate cylindrical body; and
an aperture defined in a middle section of said body, said aperture including two abutting sections, one of said sections being narrower than the second section at least at said junction.
32. (Withdrawn) A stent according to claim 31, wherein said stent is defined by a plurality of circumferential expandable bands inter-linked by a plurality of axial links.
33. (Withdrawn) A stent according to claim 32, wherein said stent has a regular pattern and wherein said aperture is defined by the lack, in said pattern, of one axial link and by the lack of a section of an expandable band between two axial links.
34. (Withdrawn) A stent according to claim 32, wherein said axial links include at least one protrusion and wherein axial links abutting said aperture are configured to have their protrusion point away from said aperture.
35. (Withdrawn) A stent according to claim 31, wherein said stent is adapted to be placed in a target vessel having a varying diameter along the length of the stent and wherein the aperture is narrower towards an end of the stent adapted to be in a narrow wider section of the target vessel.

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36. (Withdrawn) A stent according to claim 31, wherein said junction is adapted to be obliterated by expansion.

37. (Withdrawn) A stent according to claim 31, wherein said aperture is configured to allow passage of an unsheathed balloon catheter passing through it, without snagging of the balloon.

38. (Withdrawn) A stent according to claim 31, wherein said stent is adapted to radially expand more in a portion of the stent to one side of the aperture than in a portion of the stent to the other side of said aperture.

39.-76. (Canceled)

77. (New) A catheter according to claim 1, wherein said entry port is at an end of said balloon.

78. (New) A catheter according to claim 1, wherein said entry port is at a distal end of said balloon.

79. (New) A catheter according to claim 1, comprising a second guide-channel adapted to carry a second guide wire.

80. (New) A catheter according to claim 79, wherein said second guide-channel includes an aperture as a distal exit for said second guide wire.

81. (New) A catheter according to claim 18, wherein said stent includes a dedicated aperture along its length for said exit port.

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82. (New) A method of folding a balloon to form a channel, comprising:
- (a) providing a balloon catheter having a balloon folded over said catheter;
 - (b) providing an elongate element between said folds on an outer surface of said balloon, along at least a part of an axial section of said balloon;
 - (c) providing said elongate element with a bend;
 - (d) manipulating said elongate element such that said bend moves in a proximal direction and travels along a contact area between said folds; and
 - (e) refolding any part of said balloon unfolded by moving said bend.